

REMARKS

The Office Action dated October 7, 2003 has been received, its contents carefully noted, and the applied citations thoroughly studied. Accordingly, the foregoing revisions to the claims are tendered with the conviction that patentable contrast has now been made manifest over the known prior art and certain typographical inexactitudes have been rectified to provide better form. Accordingly, all rejections tendered by the Examiner in the above-referenced Office Action are hereby respectfully traversed and reconsideration is respectfully requested.

Undersigned acknowledges with gratitude the telephone interview that occurred on March 16, 2004, with the Examiner.

It is believed that the foregoing revisions to the claims are within the metes and bounds of the recently articulated Supreme Court *Festo* case, in that all equivalents susceptible to capture have been retained in that one skilled in the art, at the time of this amendment, could not have reasonably be expected to have drafted a claim that would have literally encompassed any other equivalent.

Rejections under 35 U.S.C. § 112

The Examiner has rejected claim 6 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner believes that the claim contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner refers to support for a removable covering.

Claim 6 has been amended in accordance with the language agreed upon in the Examiner Interview on March 16, 2004. The amended language tracks the disclosure in the specification with respect to the protective covering. Thus, the rejection under 35 U.S.C. § 112 should be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over CN 1196382 in view of Glazkova.

CN 1196382 discloses a particular composition for a charcoal-based fuel.

Glazkova discloses a comparison of performance of various nitrates in lignite combustion, and states that sodium nitrate, potassium nitrate, and ammonium nitrate are also active in charcoal combustion. No details are provided of the nitrates' particular activity with respect to charcoal combustion.

Claims 8 and 10 require that the accelerant comprise sodium nitrate, calcium nitrate, and potassium nitrate. The CN patent discloses a combination of barium and sodium nitrate only. In Glazkova, calcium nitrate is listed as one of the nitrates studied, but is not included in the list of nitrates found to be active in charcoal combustion. No details are provided with respect to the conditions under which these nitrates were examined. Their mere presence in an article about combustion that mentions charcoal is not a teaching. Thus, Glazkova cannot teach the combination of these three nitrates.

Claims 27-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Christian (USP 4,243,393).

Christian teaches an extruded coal article with a hollow core. Christian states that "wax-like material may be used to facilitate the ignition and burning of the coal

and to maintain the flame produced thereby" (col. 4, lines 25-27). The coal article may be dipped in wax for this purpose.

Claims 27 and 28 require "a carbonaceous material having an accelerant-containing portion". It is the Examiner's opinion that the wax in Christian functions as an accelerant. The fact that something merely burns does not mean that it functions as an accelerant. The accelerant of the present invention is comprised of nitrates that ignite quickly and produce energy at a greater rate than Christian's wax. The function of the accelerant in the present invention is to overcome the energy barrier to both igniting and maintaining the burning of the anthracite mixture.

Claims 29 and 30 also require an "accelerant-containing portion" of the carbonaceous material and further specify the presence of "zones of designated accelerated heating", which is not present in Christian. Again, Christian does not disclose an accelerant, because the wax does not function as an accelerant. The entire cylinder is coated in wax, making it a uniform structure. No "zones" of this type could be present on such a uniform article.

Claims 2, 4, 5, 8 10, 12, 32, 34, 39 and 41-43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 2,306,502.

GB 2,306,502 discloses a briquette containing carbonaceous material and an accelerant layer. The accelerant layer comprises 15 to 30% of the total mass of the briquette. The briquette is made in a mold under pressure, but no further details about the molding process are given. For example, at page 8, line 21, the briquette was "formed under pressure in a special mould [sic] to get the proper shape and size."

Claim 2 requires, inter alia, “pressing said monolith of carbonaceous material a second time”. No second molding step whatsoever is disclosed in the GB patent. The Examiner states in her rejection that the order of performing steps is prima facie obvious in the absence of new or unexpected results. The second pressing step is not merely performance of steps in a different order; it is an entirely new step. In addition, there are new or unexpected results from molding the fuel of the present invention in this manner. The accelerant slurry is introduced on top of the formed body layer. The second pressing step allows the accelerant slurry to coat the top of the fuel and permeate a portion of the adjacent body layer rather than forming a separate layer having a definite thickness.

Claims 4 and 5 also require a second pressing step that is not present in the GB patent. In addition, claims 4 and 5 each specify that the “accelerant layer . . . permeates a limited extent into said carbonaceous material.” No such permeation is mentioned in the GB patent. The forming method of the instant application is designed to ensure that a gradient in accelerant material is formed in the fuel, which assists in the initial ignition of the body layer.

Claims 8 and 10 require that the accelerant contain “sodium nitrate, calcium nitrate, and potassium nitrate.” The GB patent discloses two embodiments, each containing one of the three nitrates, and another embodiment that contains two of the three nitrates, but no embodiment contains all three. The Examiner has not articulated sufficient motivation to combine these three particular nitrates. The mixture is not found in the GB patent.

Claim 12 requires that the “monolith of carbonaceous material” and the accelerant each contain anthracite coal. The GB patent teaches compositions in

which the body portion contains anthracite and other compositions in which the accelerant portion contains anthracite, but no composition having two sections in which both sections contain anthracite.

Claims 32 and 34 specify particular ranges of the elements that make up each layer of the fuel of the present invention. An examination of each embodiment disclosed in the GB patent reveals no combination of elements that is present in claim 32. For example, none of the GB embodiments contain a combination of sodium nitrate and barium nitrate, as required.

Claims 39, 41 and 42 specify particular ranges of the elements that make up each layer of the fuel of the present invention. An examination of each embodiment disclosed in the GB patent reveals no combination of elements that is present in claim 32. For example, none of the GB embodiments contain a combination of sodium, potassium, and calcium nitrates, as required by all three claims. The percentage ranges of these elements are not present in the Examiner's combination of references, and unexpected results are obtained thereby. The fuel of the present invention reaches its desired temperature more quickly than prior art fuels and continues steady state burning for a longer period of time.

Claim 43 requires that the core comprise 85-95% of the total fuel mass, and an accelerant that comprises 5-15% of the total fuel mass. The GB patent specifies that the igniting layer is 15-30% of the mass of the briquette, which is out of the range specified by the claim. The combination of elements in the present invention produces unexpected results, as the fuel performs differently than prior art fuels, coming to optimum temperature more quickly and maintaining the steady state temperature for a longer period of time.

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 2,306,502 in view of Young (USP 4,822,380).

Young teaches coating of coal or charcoal with a latex mixture to prevent it from breaking and to make it cleaner to handle.

Claim 6 requires several forming steps, including the two pressing steps noted with respect to, inter alia, claim 2. No second pressing step occurs in the GB patent. Further steps in claim 6 require the fuel to be encased in a protective coating until use. The Examiner states that the latex in Young is disclosed in a manner to suggest that it is removable. The coal is soaked in a latex emulsion, then removed and allowed to dry. The detail disclosed in the drying method discussed at column 5, lines 7-20, suggests that the coating bonds to the coal surface and is not removable if done correctly, such that the coal is clean to handle and less prone to breakage. In addition, the subsequent discussion of materials that can be added to the coating mixture to give different colored coal articles or different colored flames further suggest that the coating is not removable but is an integral part of the coal briquette after the coating process (see column 5, line 55 through column 6, line 43).

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 2,306,502 in view of Young (USP 4,822,380) and Avedikian (USP 3,934,986).

Avedikian discloses briquettes formed by impregnating a carbonaceous material with a compound including either trioxane or tetraoxane. The embodiment disclosed at column 4, lines 54-64 includes a "cord, string, wick, or other fusing means [] impregnated with the [trioxane/tetraoxane composition]" that passes through holes that are present in the briquette.

Claim 7 requires the second pressing step, discussed hereinabove, that is not present in the GB patent. Claim 7 also requires a moisture-impervious coating that is removed before use, which Young does not provide. In addition, claim 7 requires the affixation of fusing means to the accelerant covered surface. Avedikian only teaches the presence of fusing means through the holes (venting means). The fact that Avedikian specifies the location of the fusing means in this manner indicates that placement of the fusing means elsewhere is not contemplated by Avedikian, and is required by claim 7.

Claims 3, 9, 13-26, and 37-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 2,306,502 in view of Avedikian (USP 3,934,986).

Claim 3 requires the second pressing step, discussed hereinabove, that is not present in the GB patent. Claim 3 further requires the affixation of fusing means to "surface of [the] carbonaceous material containing [the] accelerant". As noted with respect to claim 7, Avedikian only teaches the presence of fusing means through the holes (venting means). The fact that Avedikian specifies the location of the fusing means in this manner indicates that placement of the fusing means elsewhere is not contemplated by Avedikian, and is required by claim 7.

Claim 9 depends from claim 8, and thus includes the mixture of the three nitrates, which is not disclosed in the GB patent. Claim 9, like claim 3, requires the affixation of fusing means to "surface of [the] carbonaceous material containing [the] accelerant", which is not satisfied by the teachings of Avedikian.

Claim 13, like claims 3 and 9, requires the affixation of fusing means to "surface of [the] carbonaceous material containing [the] accelerant", which is not satisfied by the teachings of Avedikian.

Claim 14 includes the limitations of claim 13 and adds the limitation that "[the] fusing means overlies one of [the] venting means". The limitations of claim 13 are not present in the Examiner's combination of references. The fusing means does not pass through the venting means, which is contrary to the teaching in Avedikian.

Claim 15 includes the limitations of claims 13-14 and adds the limitation that the particular venting means under the fusing means is "a cruciform shaped-aperture". The limitations of claims 13-14 are not present in the Examiner's combination of references. No such aperture is disclosed in Avedikian. The shape of the venting means is not merely an arbitrary choice. The increased surface area provided by a cruciform shaped aperture enhances the ability of the fuel to burn upon lighting.

Claim 16 includes the limitations of claims 13-15 and adds the limitation that the aperture over which the fusing means is located is centrally located. The limitations of claims 13-15 are not present in the Examiner's combination of references. No importance is attached to the location of the holes passing through the briquette disclosed in Avedikian. The location of the aperture is relevant, because the lighting of the briquette ignites the accelerant under the fusing means. The combustion reaction thus spreads out from the center to produce a fuel that ignites evenly across its surface.

Claim 17 includes the limitations of claims 13-16 and adds the limitation that the carbonaceous material comprises wood charcoal and anthracite coal. The limitations of claims 13-16 are not present in the Examiner's combination of references.

Claim 18 includes the limitations of claims 13-17 and adds the limitation that the carbonaceous material comprises 35-90% anthracite coal and 10-65% wood charcoal. The limitations of claims 13-17 are not present in the Examiner's combination of references. The percentage ranges of these elements are not present in the Examiner's combination of references, and unexpected results are obtained thereby. The fuel of the present invention reaches its desired temperature more quickly than prior art fuels and continues steady state burning for a longer period of time.

Claim 19 includes the limitations of claims 13-18 and adds the limitation that the accelerant comprises 10-32% barium nitrate and 0.05-5% sodium nitrate. The limitations of claims 13-18 are not present in the Examiner's combination of references. The composition of the accelerant is not present in the Examiner's combination of references, and produces unexpected results, as the fuel exhibits a higher heat release rate in a shorter period of time than prior art fuels. This allows the fuel to come to steady state burning temperature more quickly than prior art fuels.

Claim 20 includes the limitations of claims 13-19 and adds the limitation that the fuel is formed in a substantially circular shape. The limitations of claims 13-19 are not present in the Examiner's combination of references. The shape of the fuel is not disclosed in the Examiner's combination of references. The shape of the fuel is not a purely arbitrary choice, but is chosen with respect to the use for the fuel. A barbecuing fuel must provide a uniform heat source over a defined area and be compatible with various cooking apparatus.

Claim 21 includes the limitations of claims 13-20 and adds the limitation that the substantially circular shape of the fuel includes a plurality of chords defining portions to be removed. The limitations of claims 13-20 are not present in the Examiner's combination of references. The limitation as to the particular shape of the fuel is not present in the Examiner's combination of references. The chords that are removed provide flat surfaces on the fuel that allow close placement of multiple fuels, should more than one be necessary. This "nesting" position allows flexibility of use of the fuel, as they may be placed in various orientations to provide a heating surface as desired.

Claim 22 includes the limitations of claims 13-21 and adds the limitation that the plurality of chords is located on one half of said substantially circular shape. The limitations of claims 13-21 are not present in the Examiner's combination of references. The limitation as to the particular shape of the fuel is not present in the Examiner's combination of references. If the chords are present on the same half of the fuel, the nesting position is substantially circular for a group of fuels. This orientation provides optimal heating for something placed over the center of fuel in such an arrangement, as the center area would not have any fuel underneath. Thus, drippings from cooking food onto the heating surface are minimized, avoiding unwanted smoke and corresponding off flavors.

Claim 23 includes the limitations of claims 13-22 and adds the limitation that the plurality of chords further includes endpoints on a diameter of the substantially circular shape. The limitations of claims 13-22 are not present in the Examiner's combination of references. The limitation as to the particular shape of the fuel is not present in the Examiner's combination of references. This shape limitation further

limits the number of fuel articles contained in a nested group to six, when the individual fuels are placed adjacent to one another

Claim 24 includes the limitations of claims 13-23 and adds the limitation that the venting means comprise a plurality of circular bores. The limitations of claims 13-23 are not present in the Examiner's combination of references. The limitation as to the particular shape of the venting means is not present in the Examiner's combination of references. The addition of differently shaped bores in the fuel aid in the ignition of the body layer of the fuel. The accelerant coats a portion of the venting means and increases the amount of available surface area of the body layer that is susceptible to ignition.

Claim 25 includes the limitations of claims 13-24 and adds the limitation that the venting means comprise a plurality of elongated slots. The limitations of claims 13-24 are not present in the Examiner's combination of references. The limitation as to the particular shape of the venting means is not present in the Examiner's combination of references. The addition of differently shaped bores in the fuel aid in the ignition of the body layer of the fuel. The accelerant coats a portion of the venting means and increases the amount of available surface area of the body layer that is susceptible to ignition.

Claim 26 includes the limitations of claims 13-25 and adds the limitation that the two differently shaped venting means are arrayed in an alternating pattern, radiating outwardly from the centrally-located cruciform structure. The limitations of claims 13-25 are not present in the Examiner's combination of references. The limitation as to the particular shapes and distribution of the venting means is not present in the Examiner's combination of references. The addition of differently

shaped bores in the fuel aid in the ignition of the body layer of the fuel. The accelerant coats a portion of the venting means and increases the amount of available surface area of the body layer that is susceptible to ignition.

Claim 37 includes the limitations of claims 13-17 and adds the limitation that the carbonaceous material comprises 33-86% anthracite coal and 10-65% wood charcoal. The limitations of claims 13-17 are not present in the Examiner's combination of references. The percentage ranges of these elements are not present in the Examiner's combination of references, and unexpected results are obtained thereby. The fuel of the present invention reaches its desired temperature more quickly than prior art fuels and continues steady state burning for a longer period of time.

Claim 38 includes the limitations of claims 13-18 and adds the limitation that the accelerant comprises 3.05-22% calcium nitrate, 2.5-22% potassium nitrate, and 0.05-4% sodium nitrate. The limitations of claims 13-18 are not present in the Examiner's combination of references. The composition of the accelerant is not present in the Examiner's combination of references, and produces unexpected results, as the fuel exhibits a higher heat release rate in a shorter period of time than prior art fuels. This allows the fuel to come to steady state burning temperature more quickly than prior art fuels.

The Examiner does not discuss claim 35. The limitations of claim 35 are not present in the Examiner's combination of references. Claim 35 addresses the composition of the body and the accelerant. As noted hereinabove, the percentage of each element is not arbitrary and produces unexpected results. The fuel of the present invention exhibits a higher heat release rate in a shorter period of time,

reaches steady state burning temperature more quickly, and maintains the steady state temperature for a longer period of time than prior art fuels.

It is Black Letter Law the Patent and Trademark Office's burden is to establish a prima facie case of obviousness. The Patent and Trademark Office has met its burden only when it fully describes: "1) What the reference discloses, teaches and suggests to one skilled in the art; 2) What the reference lacks in disclosing, teaching or suggesting vis-à-vis the claimed features; 3) What particular teaching or suggestion is being relied upon either via a reference itself or knowledge of person of ordinary skill in the art; 4) A statement explaining the proposed modification in order to establish the prima facie case of obviousness; and finally 5) the motivation behind the statement of obviousness which comes from three sources: a) teachings of the prior art; b) nature of the problem to be solved; or c) knowledge of persons of ordinary skill in the art", see *In re Rouffet* 47 USPQ2d 1453 (Fed. Cir. 1998).

In the absence of such a prima facie showing, the Examiner's rejection cannot stand:

"Decision rejecting claims in utility application as obvious over combination of prior art references must be reversed, since obviousness analysis in decision is limited to discussion of ways that multiple references can be combined to read on claimed invention, but does not particularly identify any suggestion, teaching, or motivation to combine references, and does not include specific or inferential findings concerning identification of relevant art, level of ordinary skill in art, nature of problem to be solved, or any other factual findings that might support proper obviousness analysis." *In re Dembiczak*, 50 U.S.P.Q.2d 1614. [Emphasis added.]

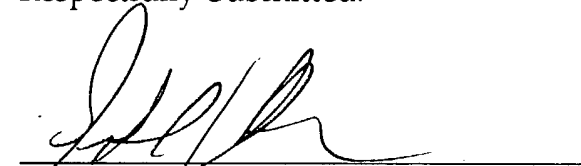
The Examiner has failed to meet these threshold requirements to establish prima facie obviousness. It is clear that the fuel of the present invention produces

unexpected results in view of the art cited by the Examiner. A Declaration under Rule 132 is will be submitted in due course.

In view of the foregoing, it is respectfully requested that the Examiner pass this case to issue. If, upon further consideration, the Examiner believes further issues remain outstanding or new ones have been generated, undersigned respectfully requests that the Examiner call undersigned to expeditiously resolve same.

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Respectfully Submitted:



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